****

NAVFAC **IGS-09212 (JUNE 2003)**

Superseding IGS-09212 (05/02)

Preparing Activity: LANTNAVFACENGCOM **Based on UFGS-09212N**

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

****

SECTION 09212

PLASTER

06/03

****

NOTE: This guide specification is issued by the Atlantic Division, Naval Facilities Engineering Command for regional use in Italy.

****

****

NOTE: This guide specification covers the requirements for interior and exterior plaster. The extent and location of the work to be accomplished, and the type of plaster required should be indicated on the project drawings.

****

****

NOTE: In Europe, plaster (gypsum and cement) is usually installed directly to the masonry (hollow clay block or concrete block). This sometimes results in cracking, however, not as much with the clay block as with the concrete because of the high rate of shrinkage typical of concrete block. Metal lath is recommended for most projects to avoid cracking and the resulting maintenance costs. Refer to Section 09205, "Furring and Lathing." The word "stucco" has a specific meaning in Italian (referring to a finish coat). The term cement plaster is preferred to avoid confusion.

****

****

NOTE: This specification is for unrestrained plaster systems. The cold-formed metal framing (Section 05400, "Cold-Formed Metal Framing") and lathing (Section 09205, "Furring and Lathing") must be designed and detailed to provide an unrestrained system. Also design and detail sleeve and caulking for fire sprinkler, electrical, and mechanical

penetrations to avoid transferring structural or vibrational loads from these systems to the plaster panels.

****

****

Comments and suggestion on this specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

****

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

INTERNATIONAL STANDARDS ORGANIZATION (ISO)

ISO 3048	(1974) Gypsum Plasters - General Test Conditions
ISO 3049	(1974) Gypsum Plasters - Determination of Physical Properties of Powder
ISO 3051	(1974) Gypsum Plasters - Determination of Mechanical Properties
ISO 3052	(1974) Gypsum Plasters - Determination of Water of Crystallization Content

EUROPEAN COMMITTEE FOR STANDARIZATION (EN)

CEN EN 196-1	(1994) Methods of Testing Cement - Part 1: Determination of Strength
CEN EN 196-2	(1994) Methods of Testing Cement - Part 2: Chemical Analysis of Cement
CEN EN 196-3	(1994) Methods of Testing Cement - Part 3: Determination of Setting Time and Soundness
CEN ENV 196-4	(1989) Methods of Testing Cement - Part 4: Quantitative Determination of Constituents

CEN ENV 413-1	(1994) Masonry Cement - Part 1: Specification
CEN ENV 459-1	(1994) Building Lime - Part 1: Definitions, Specifications and Conformity Criteria
CEN EN 459-2	(1994) Building Lime - Part 2: Test Methods
CEN EN 932-1	(1996) Tests for General Properties of Aggregates - Part 1: Methods for Sampling
CEN EN 932-3	(1996) Tests of General Properties of Aggregates - Part 3: Procedure and Terminology for Simplified Petrographic Description

1.2 SUBMITTALS

****

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item is required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

****

Submit the following in accordance with Section entitled, "Submittal Procedures."

SD-04 Samples

Exterior finish

Sample Panel

SD-08 Manufacturer's Instructions

Ready-mix plaster

Acoustical plaster finish

1.2.1 Requirements

Submit manufacturer's printed mixing instructions for ready-mix plaster and acoustical plaster finish.

1.2.2 Exterior Finish Requirements

Submit four 900 mm 36 inch square panels of varying texture for the Contracting Officer's approval.

1.2.3 Panel Requirements

After selection of an acceptable texture, construct a sample wall separate from the building, [_____] in height, by [_____] in length, using 150 mm 6 inch metal studs, and gypsum board, metal lath and plaster. The sample wall shall show all aspects of work, including but not limited to, expansion joints, control joints, corner extrusions, and casing beads. A sample of a control joint, extrusion butt joint shall also be incorporated into the sample wall. Finish work shall match the approved sample panel. The Contractor shall protect the sample wall from damage during the length of the contract.

1.3 QUALITY ASSURANCE

Erect sample panel at the building site, or as otherwise directed. Finished [plaster] work shall match the approved sample panel.

1.4 DELIVERY, STORAGE, AND HANDLING

Deliver manufactured materials in the manufacturers' original unbroken packages or containers which are labeled plainly with the manufacturers' names and brands. Keep cementitious materials dry and stored off the ground, under cover, and away from sweating walls and other damp surfaces until ready for use.

1.5 ENVIRONMENTAL CONDITIONS

1.5.1 Gypsum Plaster

Maintain an ambient temperature of not less than 15 degrees C 55 degrees F continuously in the areas to be plastered. Maintain this temperature for not less than one week prior to the application of plaster, while performing plastering, while the plaster is drying, and after the plaster

is dry until normal occupancy heating conditions are established. Distribute heat in all areas. Provide regulated ventilation to prevent "sweatouts" or "dry-outs." When the building is exposed to hot dry winds or day-to-night temperature differentials of 10 degrees C 20 degrees For more, cover openings that are not glazed. [Provide permanent ventilation for spaces enclosed by suspended ceilings as indicated.]

1.5.2 Portland Cement-Lime Plaster

Maintain an ambient temperature of not less than 4 degrees C 40 degrees F continuously where plastering work will be performed. Maintain this temperature for not less than 48 hours prior to the application of plaster, while performing plastering, and during the curing operation. [In interior plastering work, maintain heat within the building until normal occupancy conditions are established. When the building is exposed to hot dry winds or day-to-night temperature differentials of 10 degrees C 20 degrees F or more, cover openings that are not glazed.]

1.5.3 Protection from Sun and Dry Winds

During the application of the finish coat, and for a period of 48 hours following the completion of finish coat application for any given area, protect the surface of the plaster from direct sunlight and direct winds. Use of tarpaulins or other temporary means are acceptable. Provide moist curing in accordance with paragraph entitled "Scratch Coats for Plaster."

PART 2 PRODUCTS

2.1 GYPSUM BASECOAT PLASTER

2.1.1 Gypsum Neat Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052.

2.1.2 Gypsum Ready-Mixed Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052.

2.1.3 Gypsum Wood-Fibered Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052.

2.1.4 High Strength Gypsum Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052,gypsum neat plaster, except plaster shall have a compressive strength of not less than 17.25 MPa 2,500 psi, when tested dry in accordance with ISO 3051.

2.2 GYPSUM FINISH COAT PLASTER

2.2.1 Gypsum Gaging Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052.

2.2.2 High Strength Gypsum Gaging Plaster

****
NOTE: High strength gaging plaster, when blended with finish lime putty, produces a finish plaster with controlled set, early hardness and strength, and resistance to shrinkage cracks.
****

ISO 3048, ISO 3049, ISO 3051, and ISO 3052, gypsum gaging plaster, except plaster shall have a compressive strength of not less than 31 MPa 4,500 psi when tested dry in accordance with ISO 3051.

2.2.3 Gypsum Molding Plaster for Ornamental Plaster

ISO 3048, ISO 3049, ISO 3051, and ISO 3052.

2.2.4 Keene's Cement

CEN EN 196-1, CEN EN 196-2, CEN EN 196-3, and CEN ENV 196-4.

2.2.5 Acoustical Plaster

****
NOTE: Some acoustical European plasters contain asbestos. No technical norms were found. Carefully investigate products prior to inclusion.
****

Noncombustible.

2.3 PORTLAND CEMENT

****
NOTE: Portland cement is commonly used in cement plaster in Europe. However, neither the technical references nor the product literature describe which type of portland cement is used. The following description is for Type I portland cement and is acceptable for most applications. For certain other applications refer to ASTM C 150 and edit the chemical composition to suit project needs.
****

Provide [gray] [white] portland cement with the following chemical composition:

Silicon dioxide	0.00%
Aluminum dioxide	0.0%
Ferric oxide	0.0%
Magnesium oxide	6.0% max
Sulfur trioxide	3.5% max
Loss on ignition	3.0% max

2.4 PLASTIC CEMENT

****
NOTE: This material is normally used in geographical locations where its use in local practice has proven successful. Delete where its use is not considered local practice.
****

CEN EN 196-1, CEN EN 196-2, CEN EN 196-3, and CEN ENV 196-4, except for the limitations on insoluble residue, air entrainment, and additions subsequent to calcination. Plasticizing agents may be added to Portland cement in the manufacturing process, but not in excess of 12 percent of the total volume with 13 mm 1/2 inch chopped alkali resistant fiberglass strands, minimum 1.5 percent by weight to cement 1 1/2 pounds per sack of cement.

2.5 MASONRY CEMENT

****
NOTE: This material is normally used in geographical locations where its use in local practice has proven successful. Delete where its use is not considered local practice.
****

CEN ENV 413-1 [natural] [white] in color.

2.6 HYDRATED LIME

CEN ENV 459-1, CEN EN 459-2.

2.7 AGGREGATES

2.7.1 Sand for Gypsum Basecoats

CEN EN 932-1, CEN EN 932-3.

2.7.2 Sand for Gypsum Sand Float Finish

****
NOTE: Select sieve number that will provide the desired texture.
****

CEN EN 932-1, CEN EN 932-3, natural color, and shall pass a No. [12] [16] [20] sieve.

2.7.3 Sand for Portland Cement Lime [Plaster]

CEN EN 932-1, CEN EN 932-3, except gradation of sand shall conform to the following requirements:

a. Sand Gradation for Basecoats:

Sieve Size	Percentage Retained by weight (plus or minus 2 percent) on each sieve	
	Min.	Max.
No. 4	0	0
No. 8	0	10
No. 16	10	40
No. 30	30	65
No. 50	70	90
No. 100	95	100

b. Sand for Finish Coats: [Natural color] [white] and graded within the limits shown above for basecoats, except that the sand shall pass the No. 8 sieve, and for smooth finish the sand shall pass the No. 30 sieve.

2.7.4 Lightweight Aggregates, Perlite or Vermiculite for Gypsum Basecoat

****
NOTE: Do not use gypsum plaster in areas where the ceiling will be subjected to frequent moisture or wetting.
****

CEN EN 932-1, CEN EN 932-3.

2.7.5 Silica Sand or Perlite Fines

For use in lime-putty gypsum-gaged finish, aggregated white coat, shall have the following gradation: 10 percent maximum retained on a No. 30 sieve, 4 percent minimum and 70 percent maximum retained on a No. 100 sieve, and 70 percent minimum and 100 percent maximum retained on No. 200 sieve.

2.8 WATER

Suitable for domestic consumption, and free of mineral and organic substances that affect the hardening and durability of the plaster.

2.9 PROPORTIONING AND MIXING

Unless specified otherwise, materials are specified on a volume basis and shall be measured in approved containers, which will ensure that the specified proportions will be controlled and accurately maintained during the progress of the work. Measuring materials with shovels (shovel count) will not be permitted. Ready-mix plaster shall be prepared for use by the addition of water only.

2.9.1 Basecoat Proportions

2.9.1.1 Gypsum Plaster

****

NOTE: List all conditions where sand or lightweight aggregate should not be provided optionally.

****

Sand or lightweight aggregate may be provided optionally in gypsum plaster basecoats except provide (1) sand for Keene's cement and high strength gypsum gaged finish coats; (2) lightweight aggregate when necessary for a required fire resistance rating [; and (3) [_____]].

a. Sand and gypsum plaster [for [_____]]: Mix scratch coat in the proportion of 45 kilograms 100 pounds of gypsum neat plaster to not more than 56 liters 2 cubic feet of damp loose sand; mix brown coat in the proportion of 45 kilograms 100 pounds of gypsum neat plaster to not more than 85 liters 3 cubic feet of damp loose sand; or scratch and brown coats may both be mixed in the proportion of 45 kilograms 100 pounds of gypsum neat plaster to not more than 70 liters 2 1/2 cubic feet of damp loose sand. Mix the basecoats for double-up work in the proportion of 45 kilograms 100 poundsof gypsum neat plaster to [not more than 70 liters 2 1/2 cubic feet of damp loose sand on gypsum lath] [and] [not more than 85 liters 3 cubic feet of damp loose sand on masonry].

b. Lightweight aggregate and gypsum plaster [for [_____]]: Mix scratch coat in the proportion of 45 kilograms 100 poundsof gypsum neat plaster to [not more than 70 liters 2 1/2 cubic feet of lightweight aggregate on gypsum lath,] [and] [not more than 85 liters 3 cubic feet of lightweight aggregate on masonry]. Mix brown coat in the proportion of 45 kilograms 100 pounds of gypsum neat plaster to [not more than 70 liters 2 1/2 cubic feet of lightweight aggregate on gypsum lath] [and] [not more than 85 liters 3 cubic feet of light weight aggregate on masonry]. Where plaster thickness exceeds 25 mm one inch, the aggregate proportion may be increased to 85 liters 3 cubic feet. Mix the basecoats in two-coat double-up work in the proportion of 45 kilograms 100 poundsof gypsum neat plaster to [not more than 70 liters 2 1/2 cubic feet of lightweight aggregate on gypsum lath] [and] [not more than 85 liters 3 cubic feet of lightweight aggregate on masonry]. Gypsum ready-mixed plaster with perlite aggregate may be provided in lieu of field-mixed lightweight aggregate and gypsum plaster, provided the specified proportion of aggregate to plaster does not exceed the proportion specified for field-mixed plaster.

****

NOTE: Regarding the text below, because of its higher cost, wood-fibered gypsum plaster should be specified only when needed; e.g., for fireproofing.

****

c. Sand and wood-fibered gypsum plaster [for [_____]]: Mix basecoats in the proportion of 45 kilograms 100 pounds of wood-fibered gypsum plaster to not more than 28 liters one cubic foot of damp

loose sand.

****
NOTE: Regarding the text below, specify high strength gypsum plaster base coat only where needed to withstand heavy abuse; e.g., hospital corridors, handball courts, etc.
****

d. Sand and high-strength gypsum plaster [for [_____]]: Mix scratch coat in the proportion of 45 kilograms 100 pounds of high strength gypsum base coat plaster to not more than 56 liters 2 cubic feet of damp loose sand. Mix brown coat in the proportion of 45 kilograms 100 pounds of high strength gypsum basecoat plaster to not more than 85 liters 3 cubic feet of damp loose sand.

2.9.1.2 Portland Cement Plaster Basecoats

****
NOTE: In the scratch and brown coats, limit hydrated lime proportion to not more than 3/4 part by volume, when plaster or stucco is to be applied to metal lath or low absorption bases such as dense concrete or dense smooth clay brick. When plaster or stucco is to be applied to high absorption bases such as porous clay brick, tile, or concrete masonry, hydrated lime proportion should be not less than 3/4 nor more than 1 1/2 parts by volume.
****

[Use for [_____]]. Mix scratch coat in proportion of one part by volume portland cement, [not more than 3/4] [3/4 to 1 1/2] parts by volume hydrated lime and 2 1/2 to 4 parts sand (volume of sand per sum of cement and lime). Mix brown coat in proportion of one part by volume portland cement, [not more than 3/4] [3/4 to 1 1/2] parts by volume hydrated lime and 3 to 5 parts sand (volume of sand per sum of cement and lime).

2.9.1.5 Scratch Coat for Ceramic Tile Backing

Mix scratch coat in the proportion of one part by volume of portland cement to 1/5 part by volume of hydrated lime, and 5 parts by volume of damp loose sand.

2.10 FINISH COAT PROPORTIONS

2.10.1 Gypsum Plaster Finish Coat

2.10.1.1 Lime Putty

Prepare lime putty in accordance with the printed directions of the manufacturer. Putty may be used immediately after preparation or following a soaking period as recommended by the manufacturer.

2.10.1.2 Lime Putty Gypsum-Gaged (White Coat)

Use over [sand and gypsum plaster] [sand and wood-fibered gypsum plaster]. Mix finish coat in the proportions of one part, by volume, of lime putty. This mix is approximately equivalent to:

One (45 kg) (100 lb) bag of gypsum gauging plaster to:

(1) Not more than four 22.5 kilogram 50 pound bags of hydrated lime, or

(2) Not more than 127 liters 4 1/2 cubic feet of lime putty, or

(3) Not more than 132 liters 35 gallons of lime putty.

2.10.1.3 Aggregated Finish Coat

****

NOTE: Aggregated white coat should always be specified where a smooth trowel finish is required over perlite or vermiculite base coats. Do not use smooth trowel finish over lightweight aggregate basecoat or metal lath.

****

Finish coat shall consist of the lime putty, gypsum-gaged finish specified herein with the addition of fine pulverized silica sand or perlite fines in the following proportions:

a. 14 liters per 45 kilogram 1/2 cubic foot per 100 pound bag of gypsum gauging plaster used in finish, or

b. 3.5 liters per 22.5 kilogram 1/8 cubic foot per 50 poundbag of hydrated lime, or

c. One liter per 7.5 liters gallon per cubic foot of lime putty.

2.10.1.4 Gypsum Sand Float Finish [for [_____]]:

****

NOTE: Do not use this type finish in bathrooms, kitchens, and other similar places requiring a constant cleaning cycle.

****

Mix finish in the proportion of one part neat unfibered gypsum plaster to not more than two parts of sand, by weight.

2.10.1.5 Keene's Cement-Lime Putty Finish [for [_____]]

****

NOTE: Keene's cement should not be used as finish coat over a portland cement plaster basecoat, or on monolithic concrete, due to the probability of unsatisfactory bond between gypsum and portland

cement materials. Not recommended over lightweight aggregate base coats.

****

Mix finish in the proportion of not more than 45 kilograms 100 pounds of lime putty to 45 kilograms 100 pounds of Keene's cement.

2.10.1.6 High Strength Gypsum-Gaged Plaster Finish [for [_____]]

****

NOTE: Specify high-strength gypsum-gaged finish plaster where surface hardness and resistance to abrasion are required. Not recommended over lightweight aggregate base coats.

****

Mix finish in the proportion of 90 kilograms 200 pounds of high strength gauging to 45 kilograms 100 pounds of hydrated lime.

2.10.1.7 Acoustical Plaster Finish [for [_____]]

Mix finish in accordance with manufacturer's printed instructions.

2.10.2 Cement Plaster Finish Coat

2.10.2.1 Color

Color of finish coat shall be [_____]. Approved coloring compounds shall be added to produce the required color.

2.10.2.2 Portland Cement-Lime Plaster Finish Coat

****

NOTE: Limit hydrated lime proportion to not less than 3/4 nor more than 1 1/2 part(s) by volume, when surfaces are subject to severely abrasive treatment. Surfaces subject to normal treatment should have not less than 1 1/2 nor more than 2 parts by volume of hydrated lime.

****

Mix finish coat [for [_____]] in the proportion of one part by volume of portland cement to not more than one part by volume of hydrated lime, and not more than 4 parts by volume of damp loose sand. Workability shall govern the actual amount of lime and sand used in the finish coat, within the limits specified herein. [Portland cement for exteror finish shall be white.] [Prepared exterior plaster finish containing not less than one-third portland cement by weight may be provided, as approved.] [Where smooth troweled finish is indicated, allow plaster to set up to the extent that it does not flow ahead or under the trowel, yet has not solidified. Trowel the face lightly to embed the granules. Do not over-trowel or burnish the surface.]

2.10.2.3 Plastic Portland Cement Plaster Finish Coat

Mix finish coat [for [_____]] in the proportion of one part by volume of plastic cement to not more than 3 parts by volume of damp loose sand.

2.10.2.4 Masonry Cement Plaster Finish Coat

Mix finish coat [for [_____]] in the proportion of one part by volume of masonry cement to not less than 2 1/2 nor more than 3 parts by volume of damp loose sand.

2.11 MIXING

Mix materials in approved mechanical mixers of the type in which the quantity of water can be controlled accurately and uniformly, except that finish coats containing lime may be hand mixed. While the mixer is in continuous operation, add approximately 90 percent of the estimated quantity of water, half of the sand, and all of the cementitious materials. Introduce the other one-half of the sand into the mixer in that same sequence and mix thoroughly with the remainder of the water until the mixture is uniform in color and consistency. Avoid excessive mixing and agitation. [When vermiculite or perlite is used as the aggregate for gypsum plaster add the aggregate to the water before the plaster is added.] Discard plaster which has begun to set before it is used; retempering will not be permitted. Do not use frozen, caked, or lumped materials. Empty mixers and mixing boxes after each batch is mixed, and keep free of old plaster. Mix ready-mixed plaster in accordance with manufacturer's printed instructions.

2.12 ACCEPTABLE PRODUCTS

****

NOTE: Refer to manufacturer's product literature for detailed information and product availability.

****

The following manufacturers produce many, not all, of the products specified.

Ferri, S.r.l.
Via Emilia Ovest, 58/B
43036 Fidenza (PR)
Tel: 0524/52 0312
Fax: 0524/52 0314

Sakrete Incoplast, S.r.l.
Via di Salone, 323
00010 Roma
Tel: 06/41 90 267
Fax: 06/41 30 246

Calci Idrate Marcellina, S.p.a.
Locale Cesalunga
00010 Marcellina (RM)
Tel: 0774/42 4483

Fax: 0774/42 5166

PART 3 EXECUTION

3.1 SURFACE PREPARATION

Clean surfaces to receive plaster of projections, dust, loose particles, grease, bond breakers, and foreign matter. Do not apply plaster directly to surfaces (1) of masonry or concrete that have been coated with bituminous compound or other waterproofing agents, or (2) that have been painted or previously plastered. Before plaster work is started, wet masonry and concrete surfaces thoroughly with a fine fog spray of clean water to produce a uniformly moist condition. Lathing and accessories are specified in Section 09205, "Furring and Lathing." Check metal grounds, corner beads, screeds, and other accessories carefully for alignment before starting work. Do not apply plaster to surfaces containing frost. Check expansion and control joints and supporting metal structures to ensure that expansion and control joints can move unrestrained.

3.2 APPLICATION OF PLASTER

3.2.1 Application and Slump

Plaster may be applied by hand or by machine. When a plastering machine is used, control the fluidity of [gypsum plaster to have a slump of not more than 75 mm 3 inches when tested using a 50 by 100 by 150 mm 2 by 4 by 6 inch high slump cone;] [Portland cement-lime plaster to have a slump of not more than 65 mm 2 1/2 inches when tested using a 50 by 100 by 150 mm 2 by 4 by 6 inch high slump cone.] Subsequent to determining water content to meet the specified slump, do not add additional water to the mix. Conduct the slump test according to the following procedure:

a. Place cone on level, dry, non-absorptive base plate.

b. While holding cone firmly against base plate, fill cone with plaster taken directly from the hose or nozzle of the plastering machine, tamping with metal rod during filling to release air bubbles.

c. Screed off plaster level with top of cone. Remove cone by lifting it straight up with a slow and smooth motion.

d. Place cone in a vertical position adjacent to freed plaster sample, using care not to jiggle base plate.

e. Lay a straightedge across top of cone, being careful not to vibrate cone. Measure slump in millimeters inches from the bottom edge of the straightedge to the top of the slumped plaster sample.

3.2.2 Workmanship

****

NOTE: Edit to specify locations where plaster will

and will not be required.
****

Apply plaster in three coats, except as follows:

a. Gypsum plaster may be applied to [masonry] [and] [gypsum lath] using the two-coat double-up method.

b. Provide scratch coat, or scratch coat with leveling coat, as backing for ceramic tile.

Apply base coats with sufficient pressure and ensure plaster is sufficiently plastic to provide a strong bond to bases. Work base coats into screeds at intervals of from 1500 to 2400 mm 5 to 8 feet. Plaster shall not be continuous across expansion and control joints occurring in walls, partitions, and ceilings. Finish plaster work level, plumb, square, and true, within a tolerance of one in 800 mm 1/8 inch in 8 feet, without waves, cracks, blisters, pits, crazing, discoloration, projections, or other imperfections. Form plaster work carefully around angles and contours, and well-up to screeds. Take special care to prevent sagging and consequent dropping of applications. There shall be no visible junction marks in finish coat where one day's work adjoins another. [Plastered surfaces to receive [rubber or vinyl base coves] [wood base boards] shall extend to wood ground indicated as backing for base.] Plaster will not be required behind built-in cabinets and equipment [, and [_____]].

3.2.3 Gypsum Plaster

Apply base coats not less than 16 mm 5/8 inch thick from the face of [metal lath] [or] [masonry] and not less than 13 mm 1/2 inchthick from the face of gypsum lath. Apply trowel finish coats of gypsum-gaged lime putty over properly prepared base coats as thin as possible and 2 to 3 mm 1/16 to 1/8 inch thick for conventional plaster system, except as necessary in spots to level out hollows in base coat. [Apply sand float finishes to a maximum thickness of 3 mm 1/8 inch except as necessary to level out hollow spots.] Moderately moisten or fog spray base coat of plaster that has become dry before finish coat is applied. Accelerate plaster, if necessary, to provide a setting time of not more than 4 hours from the time the plaster is mixed.

3.2.4 Basecoats

3.2.4.1 Gypsum Two-Coat Work

Apply the first thickness to cover the base. Before the first thickness has set, apply a second thickness to bring the base coat out to the screeds. Compact the base coat and straighten to a true surface without the application of water, and float the entire surface to receive the finish coat.

3.2.4.2 Gypsum Three-Coat Work

Apply scratch coat 5 to 6 mm 3/16 to 1/4 inch thick, rake or scratch and allow to set firm and hard. Apply the brown coat to bring the base coat

out to the screeds, compact and straighten to a true surface without the application of water, and float the entire surface to receive the finish coat.

3.2.5 Finish Coats

3.2.5.1 Lime Putty and Gypsum-Gaged Coatings

Apply lime putty gypsum-gaged finish white coat or aggregated white coat and high strength gypsum gaged finish over the base coat, scratch in thoroughly, lay on well, double back, and fill out to a true, even surface. Allow the finish to dry a few minutes, then trowel well with water. Apply maximum pressure in order to compact the finish coat and provide a smooth finish free from blemishes and irregularities.

3.2.5.2 Keene's Cement-Lime Putty Finish

****

NOTE: Keene's cement should not be used as finish coat over a portland cement plaster basecoat, or on monolithic concrete, due to the probability of unsatisfactory bond between gypsum and portland cement materials.

****

Apply finish over gypsum-sand base coat only, scratch in thoroughly, lay on well, double back, and fill out to a true, even surface. Allow the finish to dry a few minutes, then trowel it well with water. Apply maximum pressure in order to compact the finish coat and provide a smooth finish free of blemishes and irregularities. Continue troweling until the finish sets.

3.2.5.3 Gypsum Sand Float Finish

****

NOTE: Specify type of float required to produce the texture desired.

****

Apply finish over the base coat, scratch in thoroughly, lay on with a trowel to an even surface, and then float with [_____] floats to a true, even surface, free of slick spots or other blemishes.

3.3 PORTLAND CEMENT-LIME PLASTER

****

NOTE: Use portland cement-lime plaster for interior surfaces which will be subjected to abrasive action, continuous moisture, or frequent wetting. Use portland cement for exterior surfaces. It should not be applied over gypsum lath, gypsum masonry, gypsum plaster, or lime, gypsum, or magnasite stucco.

****

Apply base coats with sufficient pressure to curl the keys around the back of [metal lath] [or] [wire fabric] and to provide strong bond on [masonry] [or] [concrete] bases.

3.3.1 Scratch Coats for Plaster

****

NOTE: Rough textured finishes should not be specified for use in bathrooms, kitchens, and other similar type places, which require a constant cleaning cycle.

****

[Except at ceramic tile backing,] apply in three coats to a thickness of not less than 22 mm 7/8 inch. Apply the scratch coat not less than 10 mm 3/8 inch thick, lightly score horizontally, and moist cure for not less than 24 hours. Apply the brown coat after the scratch coat has been aged at least 24 hours in addition to the moist curing period. Apply the brown coat to bring the base coat out to the screeds, compact and straighten to a true surface with rod and darby, and float to receive the finish coat. After the brown coat has been moist cured for not less than 24 hours and aged at least an additional 5 days, apply the finish coat to a thickness of not less than 3 mm 1/8 inch. Where previous coat has become dry, dampen the surface evenly with water, prior to the application of the next coat. [The finish coat for plaster shall have a [troweled] [sand float] finish.] [Finish coat for exterior plaster shall be of the color and texture selected.] Moist cure plaster for 24 hours using a fine fog spray of water and apply to the finish coat as frequently as required to prevent dry-out of the plaster. Do not saturate the [plaster] to the point where free water stands on the surface. Prevent staining of the finish coat. Provide moist curing.

3.3.2 Scratch Coat for Ceramic Tile Backing

Apply scratch coat and keep continuously damp for not less than 24 hours before tile is to be set. Apply scratch coat in the thickness indicated or as necessary to bring the face of the tile to the required plane, but not less than 6 mm 1/4 inch from the face of the material it is being applied to and with a level surface within a tolerance of one in 400 mm 1/4 inch in 8 feet. Apply scratch coat after substantial grounds, plugs, hangers, and other such accessories have been installed for plumbing fixtures, electrical outlets, and other fixtures, and fittings have been installed that are to be secured to tiled surfaces. Apply scratch coat with sufficient pressure to ensure a proper bond and key with the base and a proper base for the setting bed. While the mortar is still plastic, cut the scratch coat with a trowel at internal vertical angles to the depth of the coat and for the full height of the tile bed, score horizontally or cross-scratch on 25 mm one inch centers for the extent of the tile bed. Use mortar for scratch coats within one hour after mixing. At no time shall the mortar be retempered. Protect scratch coat and keep moist during curing period. A leveling coat of the same mix specified for the scratch coat shall be applied over the scratch coat when the surface of the scratch coat is not level within the specified tolerance or when a base coat thickness of more than 20 mm 3/4 inch is required. Scratch leveling coat

and cure for not less than 24 hours.

3.4 ORNAMENTAL PLASTER WORK

Complete ornamental work before the finish coat of plaster is applied to the adjoining areas. Plaster for ornamental work shall consist of a mixture that will produce satisfactory results for the respective conditions, be reinforced properly with fiber or zinc-coated steel wire netting as necessary to provide permanent construction, and be rigidly secured in place. Run plain moldings in place to templates and guides, with true radial lines for curved work; where it is not practicable to run such moldings, cast or run them on a bench and then secure in place firmly. Cornices and moldings shall be straight or curved, true to line, and corners neat.

3.5 PATCHING AND POINTING

Upon completion of the building, cut out and patch loose, cracked, damaged, or defective plaster. Match patching of existing work in texture, color and finish flush with plaster previously applied. Point and patch plastered [surfaces] and plaster work abutting or adjoining other finish work in a neat manner. Remove plaster droppings or spatterings from surfaces. Leave clean, exposed plastered surfaces, in a condition ready to receive paint or other finish. Remove protective covering from floors and other surfaces, and rubbish and debris from the building.

****

NOTE: Suggestions for improvement of this specification will be welcomed using the Navy "Change Request Forms" subdirectory located in SPECSINTACT in Jobs or Masters under "Forms/Documents" directory or DD Form 1426. Suggestions should be forwarded to:

Commanding Officer
Seabee Logistics Center
NAVFAC 15G/CESO 15E
4111 San Pedro Street
Port Hueneme, CA 93043-4410

FAX: (805) 985-6465/982-5196 or DSN 551-5196

****

-- End of Section --